

**Item #10**  
**October 6, 2010**  
**Energy Commission Business Meeting**

**ZERO MOTORCYCLES, INC.**

**Grant Agreement  
for**

**Advanced Electric Vehicle Powertrain Development and Pilot  
Manufacturing in California**

**Summary**

Zero Motorcycles, an electric vehicle company based in California, will design and bring to pilot production an advanced electric motor and integrated controller for use in next-generation electric vehicles including motorcycles, neighborhood electric vehicles, and all-terrain vehicles.

The project team will develop a motor and integrated controller specifically for use in electric vehicles, and design cost-effective, scalable manufacturing processes that will allow the powertrains to be produced for less than \$450 each.

Over the term of the project, Zero Motorcycles will benchmark currently available motors ranging from three to ten kilowatts to provide baseline performance requirements for the new design, develop a proof of concept motor and controller that exceeds those benchmarks, manufacture and test prototypes, and manufacture 30 powertrains on the pilot line.

The Energy Commission is providing \$900,272 in Alternative and Renewable Fuel and Vehicle Transportation program funds and the project team will provide match funding of \$938,000 in cash and in-kind contributions.

**Benefits**

If successful, this project will create jobs in Santa Cruz County, which had an unemployment rate of 15% in early 2010. Out of the twelve permanent jobs created, most will be engineering positions, with the rest going to management and administration. Additional hiring is expected if the powertrain performs as expected and manufacturing scales up.

The facility housing the development, testing, prototyping, and pilot manufacturing equipment will be located in the City of Santa Cruz, and is designed to be carbon

neutral and sustainable through the use of on-site solar generation, certified green power, and water conservation.

Each powertrain sold, if used in place of a traditional gasoline powered motorcycle engine, is capable of reducing GHG emissions by 72%, gasoline use by 70 gallons per year and tailpipe emissions by 100%.

The motor and integrated controller will be used in Zero Motorcycle's products starting with the 2012 product line. The scalable nature of their production process will allow for an increase in volume as external demand for the product increases. The project team intends to capitalize on the projected worldwide growth in electric motorcycles by selling their integrated motor and controller as a stand-alone component on the international market.

This project will help California meet its commitment to develop green jobs and green industry, and will lead to more in-state green manufacturing if the project team can develop and demonstrate a cost-effective manufacturing process.

## **Participants**

Zero Motorcycles is an electric motorcycle manufacturer founded in 2006 and based in Santa Cruz, CA. The company has a 15,000 square foot facility in Scott's Valley, employs more than 50 people, and sells its products internationally.

The City of Santa Cruz is contributing \$415,000 in loans, advising, infrastructure improvements, and an Owner's Participation Agreement, and will also assist with permitting.